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15 December 1999

Secretary of the FCC
445 12th Street, SW
Washington, DC 20554

Subject: RM-9740

Dear Sir,

I am writing to provide comments on the proposed rule-making, RM-9740, which could end the "golden era of radio astronomy" and crush our hopes of uncovering some of the most important power-generation processes in our Universe. The proceeding deals with unwanted emissions from satellites and, if modified carelessly, could render billions of dollars worth of radio telescopes unable to do the job we planned and tax dollars paid for. It could tremendously stifle scientific progress.

Unwanted emissions (spurious emissions, harmonics, intermod products) from satellites now pose the greatest threat to radio astronomy. Because of the sensitivity of radio telescopes, they are, much like the canary in the mine, the first facilities to suffer from unwanted satellite emissions. However, other services have begun to be affected, and the problem will only grow as the use of radio spectrum inevitably increases. We don't ask that the spectrum not be used, we simply request it be used responsibly in a manner that minimizes unwanted emissions.

The Radio Communication Sector of the International Telecommunications Union has provided excellent guidelines for regulating emissions in radio astronomy bands. Specifically, in bands allocated to radio astronomy, the aggregate unwanted emissions from satellite (or any other) transmitters should not exceed the detrimental interference levels listed in Recommendation ITU-R RA.769. I hope that the FCC will follow this regulation as their guideline in any modification to section 25.202(f) of the FCC Rules.

Radio astronomy provides us with a window to the universe that can easily be destroyed. Of the ten astronomers who have won the Nobel Prize in Physics, six of them used radio telescopes for their work. The future advancement of astronomy and physics is dependent upon the preservation of the radio spectrum for observation of the universe with radio telescopes. I hope the FCC will do its part to keep that window crystal clear and usable so that radio astronomers can continue to provide the exciting and important results that they have dazzled us with over the last 50 years.

Sincerely,



Deano R. Smith

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